

Name Key

Date _____

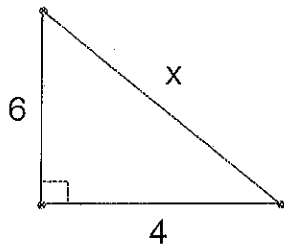
Right Triangles and Pythagorean Theorem

$$c^2 = a^2 + b^2$$

Solve for x. Some answers you will need to breakdown into radicals. No decimals please. Figures are not drawn to scale.

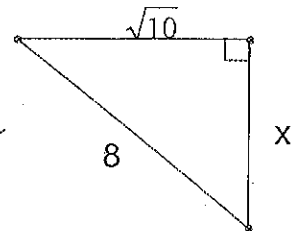
1. $2\sqrt{13}$

$$\begin{aligned} x^2 &= 6^2 + 4^2 \\ &36 + 16 \\ &\sqrt{52} \\ &\quad \wedge \\ &4 \quad 13 \end{aligned}$$



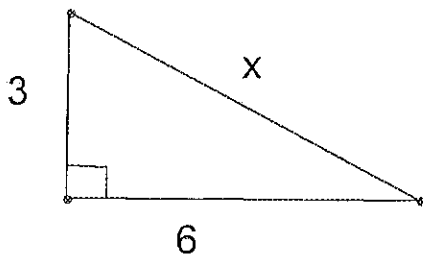
2. $3\sqrt{6}$

$$\begin{aligned} 8^2 &= x^2 + (\sqrt{10})^2 \\ 64 &= x^2 + 10 \\ \sqrt{54} &= x \\ &\quad \wedge \\ &9 \quad 6 \end{aligned}$$



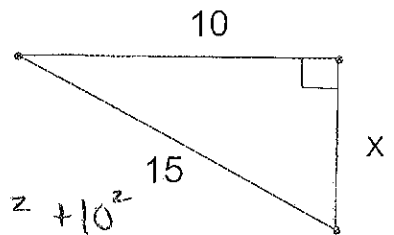
3. $3\sqrt{5}$

$$\begin{aligned} x^2 &= 3^2 + 6^2 \\ &9 + 36 \\ &\sqrt{45} \\ &\quad \wedge \\ &9 \quad 5 \end{aligned}$$

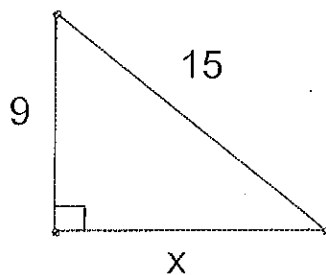


4. $5\sqrt{5}$

$$\begin{aligned} 15^2 &= x^2 + 10^2 \\ 225 &= x^2 + 100 \\ 125 &= x^2 \\ &\quad \wedge \\ &5 \quad 25 \end{aligned}$$



5. 12



$$\begin{aligned} 15^2 &= x^2 + 9^2 \\ 225 &= x^2 + 81 \\ &\quad -81 \\ \hline 144 &= x^2 \end{aligned}$$

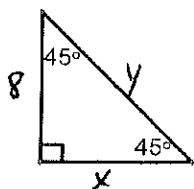
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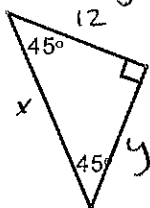
Special Right Triangles

Find x and y for each triangle. Make your own chart to help with the pattern.

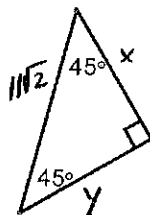
1. $x=8$ $y=8\sqrt{2}$



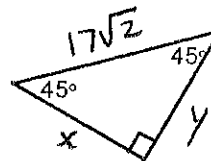
2. $x=12\sqrt{2}$ $y=12$



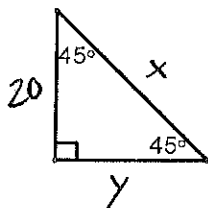
3. $x=y=11$



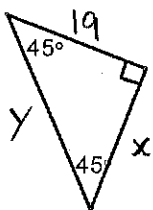
4. $x=y=17$



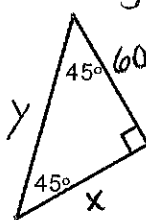
5. $x=20\sqrt{2}$ $y=20$



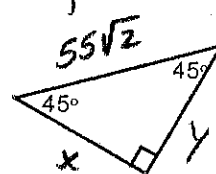
6. $x=19$ $y=19\sqrt{2}$



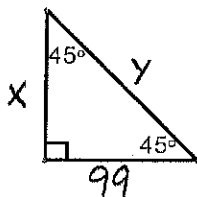
7. $x=60$ $y=60\sqrt{2}$



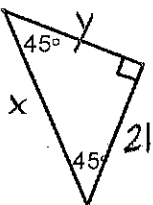
8. $x=y=55$



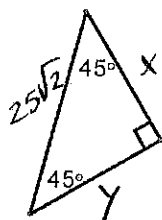
9. $x=99$ $y=99\sqrt{2}$



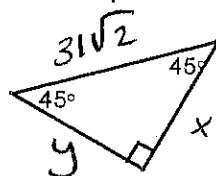
10. $x=21\sqrt{2}$ $y=21$



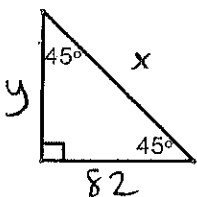
11. $x=y=2.5$



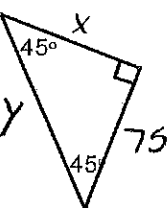
12. $x=y=31$



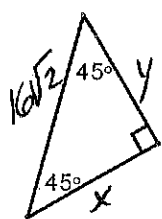
13. $x=82\sqrt{2}$ $y=82$



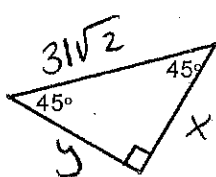
14. $x=75$ $y=75\sqrt{2}$



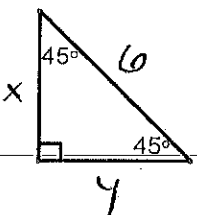
15. $x=y=16$



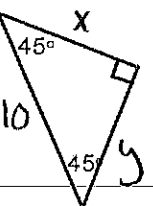
16. $x=y=31$



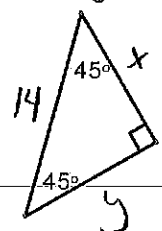
* 17. $x=y=3\sqrt{2}$



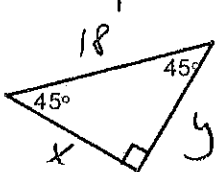
18. $x=y=5\sqrt{2}$



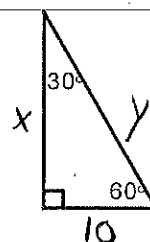
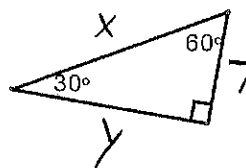
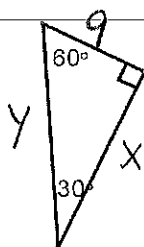
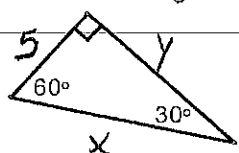
19. $x=y=7\sqrt{2}$



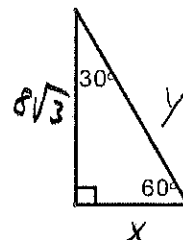
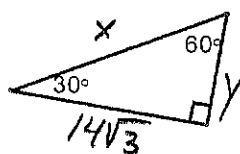
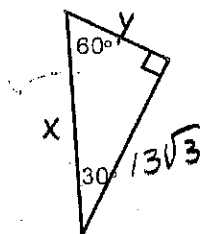
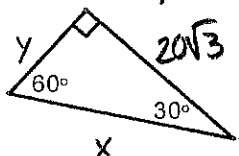
20. $x=y=9\sqrt{2}$



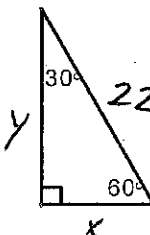
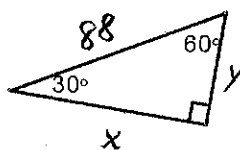
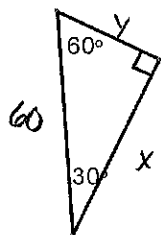
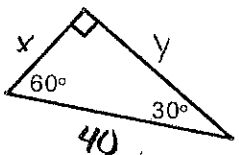
21. $x=10$ $y=5\sqrt{3}$ 22. $x=9\sqrt{3}$ $y=18$ 23. $x=14$ $y=7\sqrt{3}$ 24. $x=10\sqrt{3}$ $y=20$



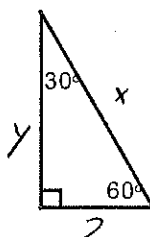
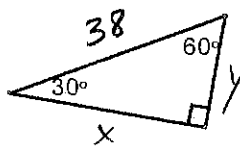
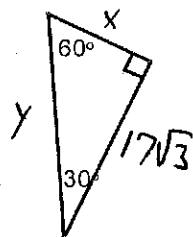
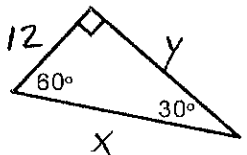
25. $x=40$ $y=20$ 26. $x=26$ $y=13$ 27. $x=28$ $y=14$ 28. $x=8$ $y=16$



29. $x=20$ $y=20\sqrt{3}$ 30. $x=30\sqrt{3}$ $y=30$ 31. $x=44\sqrt{3}$ $y=44$ 32. $x=11$ $y=11\sqrt{3}$



33. $x=24$ $y=12\sqrt{3}$ 34. $x=17$ $y=34$ 35. $x=19\sqrt{3}$ $y=19$ 36. $x=4$ $y=2\sqrt{3}$



* 37. $x=3\sqrt{3}$ $y=6\sqrt{3}$ 38. $x=4\sqrt{3}$ $y=8\sqrt{3}$ 39. $x=11\sqrt{3}$ $y=5\sqrt{3}$ 40. $x=12\sqrt{3}$ $y=6\sqrt{3}$

